Abstract of the Disclosure

A predictive load management system is provided. A power source is operable to generate a power output and has a desired operating range. A transmission has a drive member operably engaged with the power source and a driven member. A control system is operable to receive at least one input indicative of a load on the transmission and to identify a desired load of the transmission based on the at least one input. The control system is also operable to receive at least one input indicative of current power output of the power source. The control system limits the desired transmission load applied to the driven member of the transmission based on the current power output of the power source to thereby prevent the power source from operating outside of the desired operating range.